

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Index No. 2423  
(For London Office only.)

-2 JUN 1933

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having POOP, BRIDGE, FCL

Port of Survey Newcastle-on-Tyne

Date of Survey 30<sup>th</sup> MAY. /33

Name of Surveyor John A. Lawson

Particulars of Classification +100 A.1.

S.S. "PANACHRANDHOS" (Type of Superstructures.)

Ship's Name HARTFIELD Nationality and Port of Official Number British Greek 138998 Gross Tonnage 4661 Date of Build 1915.4

Moulded Dimensions: Length 100 Breadth 52.0 Depth 28.20

Moulded displacement at moulded draught = 85 per cent. of moulded depth 1150 tons

Coefficient of fineness for use with Tables .783

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	28.20	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	52.0
Stringer plate	.04	(28.20 - 26.67) × 3 = + 4.74		Standard Round of Beam = $\frac{B \times 12}{50}$	12.482
Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	13.00
$T \left( \frac{L-S}{L} \right) =$				Difference	.528
Depth for Freeboard (D) =	28.24	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right)$	$\frac{.528}{4} \times 22.22 = -.03$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	28.37	29.35	8.0		29.48
" overhang <u>sidcham</u>	1.13	.56			
R.Q.D. enclosed ...					
" overhang					
Bridge enclosed...	244.37	244.37	8.1		244.37
" overhang aft					
" overhang forward					
F'cle enclosed ...	37.25	37.25	8.0		37.25
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	311.18	311.18			311.18

Standard Height of Superstructure 7.50

" " R.Q.D. ✓

Deduction for complete superstructure 42

Percentage covered  $\frac{S}{L} = 77.78\%$

" "  $\frac{S_1}{L} = 77.78\%$

" "  $\frac{E}{L} = 77.78\%$

Percentage from Table, Line A. ✓

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. 72.592

(corrected for absence of forecastle (if required))

Interpolation for bridge less than .2L (if required)

Deduction = 42 × 72.592 = -30.48

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	50.00	1		50.00	60	60.00	1		60.00
$\frac{1}{8}$ L from A.P. ...	22.25	4		89.00	26.0	26.07	4		104.28
$\frac{2}{8}$ L " ...	5.50	2		11.00	6.50	6.52	2		13.04
Amidships ...		4					4		
$\frac{3}{8}$ L from F.P. ...	11.00	2		22.00	13.0	13.03	2		26.06
$\frac{4}{8}$ L " ...	44.50	4		178.00	52.0	52.13	4		208.52
F.P. ...	100.00	1		100.00	120	120.00	1		120.00
Total				450.00					531.90

Mean actual sheer aft = Excess

Mean standard sheer aft

Mean actual sheer forward = Excess

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = > .1L

" " aft of " = > .1L

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{81.90}{18} \left( .75 - .3889 \right) = -1.64$

If limited on account of midship superstructure.

If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 28.24

Summer freeboard = 4.12

Moulded draught (d) = 24.123

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = 6.03

Addition for Winter North Atlantic Freeboard (if required) = ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$

Tons per inch immersion at summer load water line

T =

Deduction =  $\frac{\Delta}{40T}$  inches

= 6

41.20 TONS/1" AT LOAD DRAFT.

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient

$\frac{783 + 68}{1.36} = \frac{1.463}{1.36}$

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

71.50

76.92

Summer Freeboard = 49.4851SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:-

Tropical Fresh Water Line above Centre of Disc	30.4	12
Fresh Water Line	152	6
Tropical Line	152	6
Winter Line	152	6
Winter North Atlantic Line		

Tropical Fresh Water Freeboard	3'-1 1/2" = 9.51
Fresh Water	3'-7 1/2" = 11.05
Tropical	3'-7 1/2" = 11.05
Winter	4'-7 1/2" = 14.09
Winter North Atlantic	

6 JUN 1933

W481-031(12)

26 JUL 1933

RECEIVED 26 JUN 1933

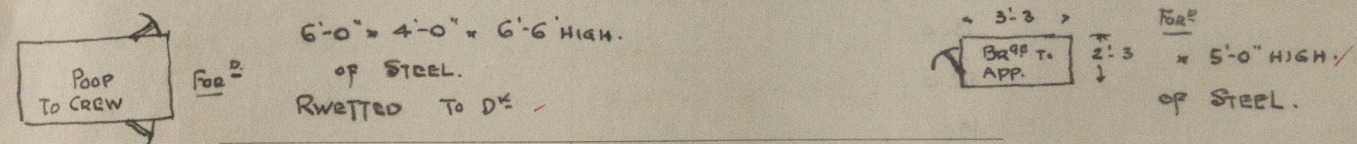
# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

Description of Hatchway		HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										IN BR. 3P.										To Store	
		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
Dimensions of Hatchway		29'9"	29'9"	19'18"	29'9"	29'9"	29'9"	16'2"	29'0"	3'0"	4'0"	8'3"	20'0"	3'9"	2'6"	2'6"	3'6"	3'6"	3'10"	3'10"	2'6"	2'6"	2'6"
COAMINGS	Height above Deck	36"	12"	12"	12"	36"	30"	30"	30"	30"	30"	30"	12"	18"	9'8"	9'8"	18"	33'18"	18"	14"	14"	14"	14"
	Thickness	54"	54"	54"	54"	54"	50"	50"	50"	50"	50"	50"	50"	50"	50"	50"	50"	50"	50"	50"	50"	50"	50"
	Sides	40"	50"	50"	50"	40"	40"	40"	40"	40"	40"	40"	40"	40"	40"	40"	40"	40"	40"	40"	40"	40"	40"
	Stiffeners	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HATCH BEAMS	Number	5	5	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Spacing	4'9"	4'11"	4'9"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"	4'11"
	Scantling and Sketch	28"	24"	24"	28"	28"	28"	28"	28"	28"	28"	28"	28"	28"	28"	28"	28"	28"	28"	28"	28"	28"	28"
	Bearing Surface	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
FORE AND AFTERS	Number	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Spacing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Unsupported Lengths	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Scantling* and Sketch	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HATCH COVERS	Material	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.
	Thickness	3"	3"	13"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
	How fitted	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.
	Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Spacing of Cleats		21"	27'29"	25"	27'29"	21"	21"	21"	21"	24"	22"	22"	24"	27"	18"	18"	26"	26"	21"	24"	24"	24"	24"
Number of Tarpaulins		2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Particulars of fiddle, funnel and ventilator coamings:— FUNNEL & FIDDLE IN EFF. CONDITION.  
GRATINGS COVERED BY STRONG STEEL HGD COVERS.  
ENGINE SKYLIGHT OF STRONG.

Particulars of Flush Bunker Scuttles:— NONE.

Particulars of Companionways:— ONE ON POOP TO CREW. 2 WOOD DOORS 1 1/2" SOLID. 4'9" x 1'11". OP. BOTH SIDES. 14" SILL P.S. 8" S.S.  
ONE ON BRIDGE AFT END TO APP. ROOM. 1 WOOD DOOR. 4'3" x 1'11" x 1 1/2" SOLID. OP. BOTH SIDES. 12" SILL.



Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—

FILE D <sup>2</sup>	1 VENT.	7" DIA.	GAUMING.	15" x 3"	FIRE PEAK.	AFT WELL.	1 VENT.	1 1/2" DIA.	30" x 4" TUNNEL.
	1	18"		33" x 36"	TO HOLD.		1	18"	33" x 36" HOLD.
BR D <sup>2</sup>	6	21"		36" x 36"		POOP D <sup>2</sup>	1	20"	36" x 36" TO STORE.
	2	18"		36" x 36"			1	10"	9" x 30" TO CREW.
	1	12"		36" x 36"		WOOD PLUGS	1	6"	9" x 30" TO CREW.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—

FILE D<sup>2</sup>: 1 G.I. GN. 2" DIA. 30" ABOVE D<sup>2</sup> TO D.B. WOOD PLUG SUPPLIED.  
ALL OTHER AIR PIPES FLUSH WITH SCREW CAPS.

Particulars of Gangway Cargo and Coaling Ports:— NONE.

Particulars of Scuppers and Sanitary Discharge Pipes:— SOIL PIPES HAVE STRONG STORM VALVES FITTED. ABOVE & BELOW FREEBOARD D<sup>2</sup>.

Particulars of Side Scuttles:— OF STRONG CONSTRUCTION AND HAVE HGD DEADLIGHTS FITTED.

Particulars of Guard Rails:— FILE 3'3" HIGH. 2 BAR. STANCHIONS SP. 4'6"  
BRIDGE 3'3" " 3 " " 4'6" CLEAR HOUSES & BULWARK.  
POOP. 3'3" " 3 " " 4'6"

Particulars of Gangways, Lifelines, etc.:— GANGWAY FITTED ACROSS AFT WELL. 2 TIER STANCHIONS. SP. ABOUT 9'0" APART.  
NO LIFE LINE FOR (CREW AFT IN POOP)

*Suitable provision is made for rigging lifelines for use in all parts of the vessel which might be used by the crew in the regular working thereof.*

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	42.50	4'-1"	4'-0" x 1'-6"	2	11.04	10.75
Forward Well	42.50	4'-1"	4'-0" x 1'-6"	2	11.04	10.75

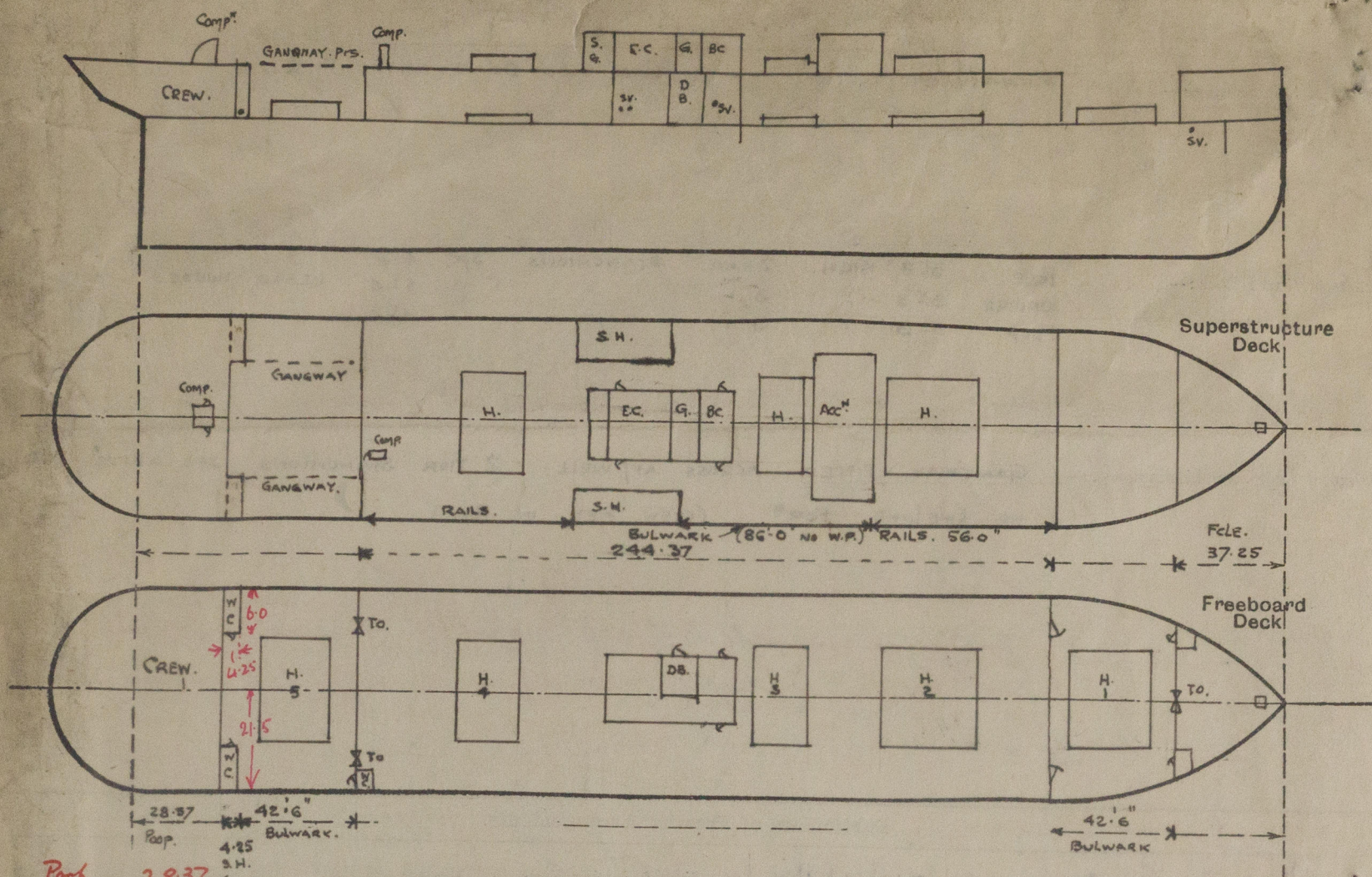
State position of each freeing port ... After Well: 1" 4'-10" : 2" 23'-0" FROM B.B.W. 11" ABOVE D<sup>2</sup>  
(F. and A. position and height above deck edge) Forward Well: 1" 5'-5" : 2" 24'-7" 11"  
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 1 BAR & HGD DOOR.

Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	46	40	7 x 3 1/2 x 50 L	29	✓	✓	✓	✓
Raised Quarter Deck Bulkhead	✓	✓	✓	✓	✓	✓	✓	✓
Bridge, After Bulkhead	30	30	6 x 3 x 30 L	27		4'-6" x 3'-3" TO 4'-6" x 2'-0" B.W.	18	8'-0"
Bridge, Forward Bulkhead	40	36	8 1/2 x 3 x 64 L	30	BKTS TOP & BOT.	4'-6" x 3'-3" 4'-6" x 2'-0" TO 4'-6" x 2'-0" B.W.	18	8'-0"
Forecastle Bulkhead	✓	28	5 x 3 x 30 L	54	✓	✓	✓	✓
Trunk, Aft	✓	✓	✓	✓	✓	✓	✓	✓
Trunk, Forward	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Superstructure Decks	38	36	4 x 3 x 36 L	48	✓	4'-6" x 2'-0"	18	7'-0"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	50 B.C.	36	4 x 3 1/2 x 36 L	51	✓	4'-3" x 2'-0" 4'-10" x 2'-10" D.B.C.	20	8'-0"
Deckhouses on Flush Deck Ships	✓	✓	✓	✓	✓	✓	✓	✓

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	NO OPENINGS.
Raised Quarter Deck Bulkhead	✓
Bridge, After Bulkhead	3" WEATHER BOARD IN RIVETTED CHANNELS TO TONNAGE OPENINGS. STEEL HGD. DOOR TO HOUSE. OP. BOTH SIDES.
Bridge, Forward Bulkhead	HGD STEEL DOORS. BULTS 13-15" APART THROUGH PLATING & DOOR.
Forecastle Bulkhead	2 STEEL DOORS TO SIDEHUSES. 3" WEATHER BOARDS IN END CHANNELS. FULL HT.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓
Exposed Machinery Casings on Superstructure Decks	ORD. STEEL HGD DOORS. OPERATED BOTH SIDES.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	ORD. STEEL HGD DOORS. OP. BOTH SIDES TO BOILER ROOM. OP. ONE SIDE TO DONKEY BIL. ROOM.
Deckhouses on Flush Deck Ships	✓

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



State any special features in the construction of the ship:— VESSEL EXAMINED AFLOAT ✓

SPECIAL SURVEY IS BEING CARRIED OUT AND  
WILL BE COMPLETED BEFORE VESSEL SAILS. ✓

NO TIMBER ASSIGNMENT REQ<sup>d</sup>. ✓

Builder's name and yard number Bartram Sons. Ltd. Sunderland.

Names of sister ships \_\_\_\_\_

Owners Woodfield Steam Shipping Co. Ltd.

Fee £ 12 15 0

Received by me \_\_\_\_\_



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Foundation